

BRIEF NOTE

Second Ohio Record of *Agraulis vanillae* (Lepidoptera, Nymphalida)¹

PETER W. WHAN AND JEFFREY E. BELTH, Cincinnati Museum of Natural History, Cincinnati, OH 45203

ABSTRACT. In July 1990, an adult *Agraulis vanillae* was observed and a larva captured and reared, at The Edge of Appalachia Preserve in Adams County. The only previous sighting for *A. vanillae* in the state was in central Ohio in 1944.

Ohio J. Sci. 92 (4): 121–122, 1992

INTRODUCTION

The range of *Agraulis vanillae* (Linnaeus), 1758, the Gulf Fritillary, extends from southern California, southern Texas, and southern Florida south through tropical America to Argentina (Scott 1986). It has been known, however, to emigrate sporadically as far north as Minnesota, Wisconsin, New York, and Pennsylvania (Opler and Krizek 1984). Temporary breeding populations have been recorded in Illinois, Missouri, and Virginia (Opler and Krizek 1984). In Ohio, according to David K. Parshall, past president of The Ohio Lepidopterists, the only previous sighting for *A. vanillae* was reported by Hazel Chase, who collected a specimen at Mt. Gilead, Morrow County in 1944 (Parshall pers. comm. 1990). This specimen, reported to be in the collection of the Cleveland Museum of Natural History, was photographed by Parshall, but could not be located by the curator. In Indiana only one sighting of *A. vanillae* exists. It was reported by W. S. Blatchley in Vanderburgh County in 1891 (Shull 1987). In Kentucky, Dr. Charles V. Covell, Jr., Department of Biology, University of Louisville, reported there have been thirty sightings of *A. vanillae* (Covell pers. comm.).

A. vanillae is easily recognized. Dorsally, the wings are reddish-orange with black markings along the veins. Ventrally, the fore wings are brown apically, changing to crimson basally; the hind wings are brown with several large silver spots.

MATERIALS AND METHODS

The Edge of Appalachia Preserve System is a group of 12 preserves that have been jointly owned and operated by the Cincinnati Museum of Natural History and The Nature Conservancy for the past thirty years in Adams County, OH. During this time the major management priority has been to maintain and to enhance the 57 small, remnant, Ozark alkaline barren communities that comprise a total of 200 acres of this preserve system of 10,500 acres. Methods used in this management have been prescribed burns and manual removal of invading woody plants. These areas have a rich, biotic diversity which supports the food plant of the *A. vanillae*, *Passiflora lutea* L. (yellow passion-flower).

The larva was raised in a terrarium with an adequate

supply of the food plant and a branch for the larva to use for pupation.

RESULTS AND DISCUSSION

The *A. vanillae* found in Adams County, OH, was captured as a larva on 1 July 1990. It was discovered feeding on its host plant *P. lutea* in a small barren opening in Lynx Prairie at The Richard and Lucille Durrell Edge of Appalachia Preserve System in Brush Creek Township.

The larva was overall reddish-orange with six rows of black spines. On 6 July 1990 it molted into a medium brown chrysalis with a tan saddle. An adult male *A. vanillae* var. *nigrior* emerged on 18 July 1990, whereupon it was photographed (photos installed at Cincinnati Museum of Natural History) and released. Four days later, on 22 July, another adult individual was observed near the site where the larva was found, but it eluded capture.

Howe described *A. vanillae* as a "breeding migrant" in Kansas and Missouri, stating that migrating females must "accidentally locate" *Passiflora* vines in the late spring and lay their eggs (Howe 1965). Opler contended that *A. vanillae* undertakes periodic emigrations, ranging farther north than any of its passion vine host plants (Opler and Krizek 1984). Such an overflight seems not to have occurred among the total, admittedly small sample of four records, in Ohio and Indiana. *P. lutea* has been recorded in 28 southern Ohio counties. *Passiflora incarnata* L. (passion-flower), the preferred host plant in the South, has been recorded from only four of the southernmost counties in the state (Cusick and Silberhorn 1977, Andreas 1989, Cusick pers. comm.). *P. lutea* has been recorded in 23 mostly southern counties in Indiana, and *P. incarnata* only in four of the southernmost counties of the state (Deam 1940). The Ohio and Indiana sightings of *A. vanillae* seem to be included in and to extend only slightly beyond the range of these two host plants (Fig. 1). Assuming the likelihood either of anthropogenic introduction or of wandering in the case of the Morrow County, OH, sighting, it would seem that the resident range of the butterfly is closely limited to the range of its host plants. Opler further stated that "*A. vanillae* is the hardiest of the heliconiines and sometimes surviving the winter as far north as Missouri and Illinois" (Opler 1984). However, in light of the severity of Ohio and Indiana winters, it is doubtful that colonization by this tropical species can be any more than a temporary occurrence (Shull 1987, Pyle 1981).

¹Manuscript received 6 May 1992 and in revised form 20 July 1992 (#BN92-13).

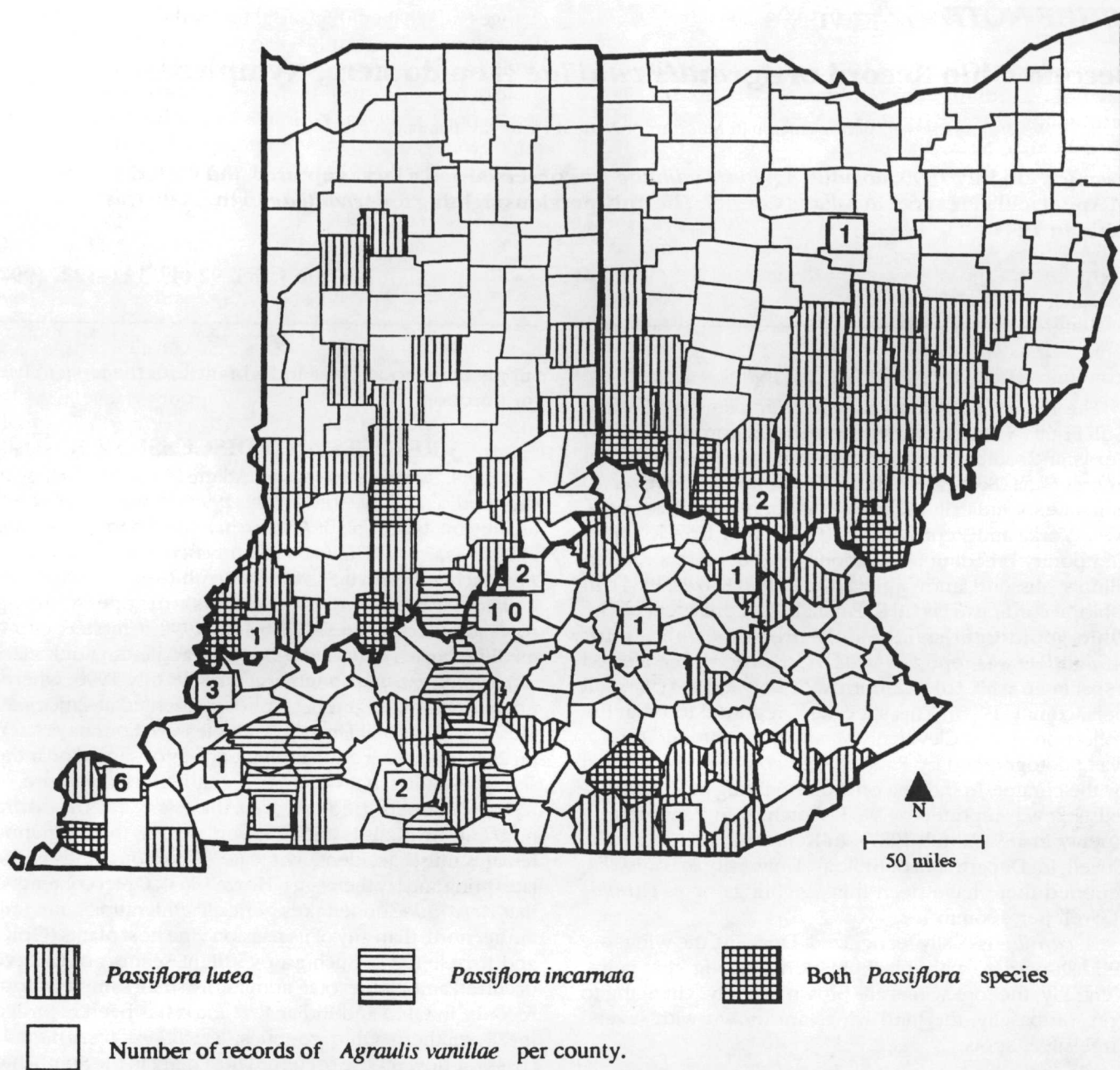


FIGURE 1. Distribution of *Agraulis vanillae* and host plants in Ohio, Indiana, and Kentucky.

ACKNOWLEDGEMENTS. We would like to thank Charles V. Covell, David K. Parshall, and Ernest Shull, for butterfly records; Allison Cusick and Max E. Medley for botanical records; Marge Belth, Richard Davis, Robert Kennedy, Eugene Kritsky, and William Whan for their help; and all for their support.

LITERATURE CITED

- Andreas, B. K. 1989 The Vascular Flora of The Glaciated Allegheny Plateau Region of Ohio. Ohio Biol. Surv. Bull. N.S. 8(1). 92 pp.
- Cusick A. W. and G. M. Silberhorn 1977 The Vascular Plants of Unglaciated Ohio. Ohio Biol. Surv. Bull. N.S. 5(4). 90 pp.
- Deam, C. C. 1940 Flora of Indiana. Dept. of Conservation, Div. of Forestry, Indianapolis, IN. pp. 693-694.
- Howe, H. H. 1965 Status of *Agraulis vanillae* in Missouri and Kansas. J. of the Lepid. Soc. 19: 33-34.
- Opler, P. A. and G. O. Krizek 1984 Butterflies East of the Great Plains. Johns Hopkins University Press, Baltimore, MD. pp. 127-128.
- Pyle, R. M. 1981 The Audubon Society Field Guide to North American Butterflies. Alfred A. Knopf, Inc, New York, NY. pp. 538-539.
- Scott, J. A. 1986 The Butterflies of North America. Stanford University Press, Stanford, CA. pp. 338-339.
- Shull, E. M. 1987 Butterflies of Indiana. Indiana Academy of Science, Indianapolis, IN. 167 pp.